

# **Chapter 14: Communication Systems**

**Presenter:**

**David Mizzen  
Applied Research Associates**

# Three Key Concepts

1. Communities and service providers should work together to prioritize needs
2. Communication systems depend on other infrastructure systems
3. Many possible solutions to problems that can be used to close resilience gaps



# Prioritizing Needs

- “energy and communications systems [are] uniquely critical due to the enabling functions they provide across all critical infrastructure ...” PPD-21
- Priorities will vary by community
  - Service provider priorities may be different than community
- Identify and prioritize where service is critical before hazard event occurs, not after
  - 9-1-1
  - Hospitals?
  - One-way vs. two-way communication?





# Example Dependencies

- Access, Fuel, Security
- Transportation
  - needed to make repairs
- Electric Power
  - External electric power for charging cell phones
  - Air conditioning in Central Offices to cool equipment
- Liquid Fuel
  - Standby generator power



# Dependency on Standby Power

- Placement and Protection
- Permanent Generators
  - can be expensive
  - requires maintenance & testing
- Temporary Generators
  - can have logistical challenges
    - Access to sites?
    - Deploying generators
    - Refueling
- Energy alternatives?



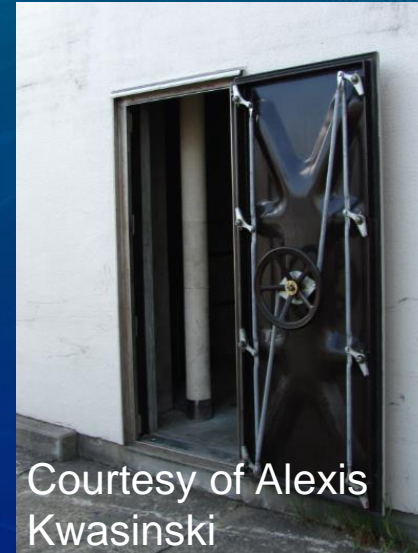
All Photos on Slide Courtesy of Alexis Kwasinski





# Identifying Solutions

- Work with stakeholders to identify solutions
  - Each service provider, businesses, critical facility representatives, utilities
- Construction & Administrative Solutions
  - Harden critical communications buildings
  - Eliminate single points of failure
  - Raise/protect critical equipment
  - Take advantage of multiple methods of communication
  - Cell on Light Truck (COLT)



# Administrative Solutions for Critical Facilities

- Government Emergency Telecommunication Service (GETS)
  - Prioritized landline service for users supporting national security and emergency preparedness/response after disaster event
- Wireless Priority Service (WPS)
  - Prioritizes cell service for users supporting national security and emergency preparedness/response after disaster event
- GETS & WPS
  - Main goal is to give priority service, but if significant infrastructure damage these services may not be available
- Telecommunications Service Priority (TSP)
  - Prioritizes participants when they need additional lines or service restoration (not just after disasters)

